A METHOD FOR AUTOMATICALLY SEARCHING FOR FUNCTIONAL DEFECTS IN A DESCRIPTION OF A CIRCUIT

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ABSTRACT

A programmed computer searches for functional defects in a description of a circuit undergoing functional verification in the following manner. The programmed computer simulates the functional behavior of the circuit in response to a test vector, automatically restores the state of the simulation without causing the simulation to pass through a reset state, and then simulates the functional behavior of the circuit in response to another test vector. A predetermined rule can be used to identify test vectors to be simulated, and the predetermined rule can depend upon a measure of functional verification, including the number

of times during simulation when a first state transition is performed by a first controller at the same time as a second state transition is performed by a second controller. During simulation of the test vectors, manually generated tests or automatically generated checkers can monitor portions of the circuit for defective behavior.